

**AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A method of forming a plurality of dopant pockets on a substrate comprising:

forming a plurality of implantable regions on said substrate separated by field oxide regions, said implantable regions and field oxide regions extending in a first direction;

forming a plurality of word lines located over said implantable regions and field oxide regions, said word lines extending in a second direction perpendicular to said first direction;

removing portions of said field oxide regions between two adjacent word lines to expose respective substrate regions;

forming source regions of a first conductivity type in said implantable regions;  
and

subsequently implanting a dopant of a second conductivity type which is different from said first conductivity type into said substrate through said respective substrate regions to form said dopant pockets beneath said source regions.

2. (Original) The method of claim 1, wherein said dopant is a p-type dopant.

3. (Original) The method of claim 1, wherein said dopant is boron.

4. (Original) The method of claim 1, wherein said dopant is  $\text{BF}_2$ .

5. (Original) The method of claim 1, wherein said dopant is an n-type dopant.

6. (Original) The method of claim 1, wherein said act of removing portions of said field oxide regions further comprises selectively etching said portions of field oxide regions relative to said substrate and said word lines.

7. (Original) The method of claim 1, wherein each of said word lines is formed of a gate stack comprising a gate oxide, a floating gate, a dielectric formed over said floating gate, and a control gate formed over said dielectric.

Claim 8. (Cancelled)

9. (Previously presented) The method of claim 1, wherein said act of implanting said dopant is carried out with an implanting energy higher than implanting energy used to form said source regions.

10. (Original) The method of claim 9, wherein said act of implanting said dopant employs directing said dopant through said substrate region at an angle of substantially 90 degrees incidence to said substrate region.

11. (Original) The method of claim 9, wherein said act of implanting said dopant employs directing said dopant through said substrate region at angles different than substantially 90 degrees incidence to said substrate region.

12. (Previously presented) A method of forming a plurality of dopant pockets on a substrate comprising:

forming a plurality of implantable regions on said substrate separated by field oxide regions, said implantable regions and field oxide regions extending in a first direction;

forming a plurality of word lines located over said implantable regions and field oxide regions, said word lines extending in a second direction perpendicular to said first direction;

forming a layer of photoresist over said field oxide regions and over said plurality of word lines;

patterning said photoresist to expose portions of said field oxide regions between said word lines;

removing portions of said field oxide regions between adjacent word lines to expose respective substrate regions;

forming source regions in said implantable regions; and

implanting a dopant into said substrate through said respective substrate regions to form said dopant pockets beneath said source regions, said photoresist operating as a mask for forming said source regions and said dopant pockets, wherein said act of implanting said dopant into said substrate is carried out before said act of forming said source regions.

13. (Previously presented) A method of forming source regions with boron pockets on a substrate of a flash memory, said method comprising:

forming a field oxide layer over said substrate;

forming a pair of adjacent spaced word lines over said field oxide layer;

removing said field oxide layer from predefined regions located in between said spaced word lines to expose respective substrate regions;

forming a source region in between said word lines; and

subsequently implanting boron into said substrate in between said word lines to form a boron pocket beneath said source region.

14. (Original) The method of claim 13, wherein said act of implanting boron into said substrate is carried out after said act of removing said field oxide material.

Claim 15. (Cancelled)

16. (Previously presented) The method of claim 13, wherein said act of implanting boron is carried out at with an implanting energy higher than an implanting energy for said source region.

17. (Original) The method of claim 16, wherein said act of implanting boron employs directing boron through said substrate region at an angle of substantially 90 degrees incidence to said substrate region.

18. (Original) The method of claim 16, wherein said act of implanting boron employs directing boron through said substrate region at angles different than substantially 90 degrees incidence to said substrate region.

19. (Previously presented) A method of forming source regions with boron pockets on a substrate of a flash memory, said method comprising:

forming a field oxide layer over said substrate;

forming a pair of adjacent spaced word lines over said field oxide layer;

forming a layer of photoresist over said field oxide layer and over said word lines;

patterning said photoresist to expose a portion of said field oxide layer located between said word lines;

removing said field oxide layer from predefined regions located in between said spaced word lines to expose respective substrate regions;

forming a source region in between said word lines; and

implanting boron into said substrate in between said word lines to form a boron pocket beneath said source region, said photoresist operating as a mask for forming said source region and said boron pocket, wherein the act of implanting boron into said substrate is carried out before said act of forming said source region.

20. (Previously presented) A method of forming a source region in a substrate comprising:

forming a pair of gate structures which extend in a first direction over a substrate;

altering the upper surface profile of said substrate to form alternating areas of higher substrate surface elevation and areas of lower substrate surface elevation along said first direction and between said pair of gate structures;

providing a first doped layer in said substrate between said gate structures which has a profile which follows that of said upper surface profile; and

providing a second doped layer in said substrate between said gate structure which is below said first doped layer and which has a profile which follows that of said first doped layer, wherein said act of providing said second doped layer is carried out with an implanting energy higher than an implanting energy for said first doped layer.

21. (Original) The method of claim 20, wherein at least one of said areas of higher and lower substrate surface elevation is doped by said first doped layer to act as a source region of a transistor.

22. (Original) The method of claim 21, wherein said area of higher substrate surface elevation acts as said source region.

Claim 23. (Cancelled)

24. (Previously presented) A method of forming a source region in a substrate comprising:

forming a pair of gate structures which extend in a first direction over a substrate;

altering the upper surface profile of said substrate to form alternating areas of higher substrate surface elevation and areas of lower substrate surface elevation along said first direction and between said pair of gate structures;

providing a layer of photoresist over said pair of gate structures;

patterning said photoresist to expose a portion of said substrate located between said pair of gate structures;

providing a first doped layer in said substrate between said gate structures which has a profile which follows that of said upper surface profile; and

providing a second doped layer in said substrate between said pair of gate structures which is below said first doped layer and which has a profile which follows that of said first doped layer, said photoresist operating as a mask for providing said first doped layer and said second doped layer, wherein said act of providing said second doped layer is carried out with an implanting energy higher than an implanting energy for said first doped layer and wherein said second doped layer is provided in said substrate before said first doped layer.